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2628	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	01/17/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

	Application No.	Applicant(s)
Office Action Summary	10/679,541	CHIN ET AL.
	Examiner	Art Unit
	Eric Woods	2628

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on <u>07 November 2006</u>.

2a) ☒ This action is **FINAL**.   2b) ☐ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) <u>7-11 and 29-46</u> is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) ☐ Claim(s) _____ is/are allowed.

6) ☒ Claim(s) <u>7-11 and 29-46</u> is/are rejected.

7) ☐ Claim(s) _____ is/are objected to.

8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☒ The specification is objected to by the Examiner.

10) ☒ The drawing(s) filed on <u>07 November 2006</u> is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a) ☐ All   b) ☐ Some * c) ☐ None of:

      1. ☐ Certified copies of the priority documents have been received.

      2. ☐ Certified copies of the priority documents have been received in Application No. _____.

      3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____.

5) ☐ Notice of Informal Patent Application

6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

Applicant's arguments, see Remarks pages 1-11, filed 11/07/2006, with respect to the rejection(s) of claim(s) 7-11 and 29-46 under various statutes have been fully considered and are persuasive in light of applicant's amendments to the claim.

The objection to the drawings stands withdrawn in view of applicant's submission of the requested additional drawing. However, note the attached objection to the specification and the drawings because applicant did not correspondingly amend the specification.

Applicant has pointed out in the Remarks (pages 1-2) where support in the specification exists for claims 7-11 and 29-46. Therefore, the rejection of claims 7-11 and 29-46 under 35 USC 112, first paragraph, stands withdrawn.

The rejection of claims 7-11 under 35 USC 112, second paragraph, stands withdrawn in view of applicant's amendments to the claims.

The rejection of claims 7-11 and 29-46 under 35 USC 103(a) stand withdrawn in view of applicant's amendments the claims.

However, upon further consideration, a new ground(s) of rejection is made in view of various references as set forth below.

Therefore, all other arguments directed to the patentability of the existing claims under 35 USC 103(a) are moot.

Drawings

The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference character(s) not mentioned in the description: all recited characters are not recited in the specification.

The newly added drawing is objected to because it lacks a Figure Number on it.

Corrected drawing sheets in compliance with 37 CFR 1.121(d), or amendment to the specification to add the reference character(s) in the description in compliance with 37 CFR 1.121(b) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement-drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the examiner does not accept the changes, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

The disclosure is objected to because of the following informalities:

1. Figure 21 is not described in the Brief Description of the Drawings section

2.   Figure 21 is never described in the specification, particularly in the specification

in the section that provides support for the recited claim(s), and the relationships

between the shown subject matter and the specification is unknown.

Appropriate correction is required.

Claim Objections

Claim 46 stands objected to because of the following informalities: It should

depend on claim 43. Appropriate correction is required.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148

USPQ 459 (1966), that are applied for establishing a background for determining

obviousness under 35 U.S.C. 103(a) are summarized as follows:

1.   Determining the scope and contents of the prior art.
2.   Ascertaining the differences between the prior art and the claims at issue.
3.   Resolving the level of ordinary skill in the pertinent art.
4.   Considering objective evidence present in the application indicating obviousness or nonobviousness.

**The rejection(s) of the parent claim(s) (independent and any intervening

dependent) as set forth below are automatically incorporated by reference in the

rejection of all dependent claim(s).

Claims 7, 11, 29, 31-33, 39, and 43 are rejected under 35 USC 103(a) as

unpatentable over Sakai et al (US PGPub 20060106757 A1) in view of Duncan et al

(US 5,917,483 A).

As to claim 7,

Sakai teaches:

A computer-implemented method of providing for different arrangements of a

plurality of view of a three-dimensional model, the method comprising: (Sakai Figure 22)

-Displaying the plurality of view in a graphical user interface (GUI) window in an

arrangement represented a computer-aided design first drawing layout; (Sakai Figure

22 [0309-0312], wherein clearly the sheet-metal parts represents a 'computer-aided

design')

-Selecting for inclusion in a second drawing layout at least a first and a second view

from the plurality of views; and (Sakai clearly teaches that the user selects first window

that contains various views – Figure 22, [0306, 0311-0313]; the user may select a

plurality of viewing functions to allow the user to change or alter the view in the window

– that is, for a specific 2D, flat, orthographic view or 3D. Also, Sakai teaches that

'multiple windows viewing feature may be provided to permit the user to selectively

display a worm view and/or a bird's eye view of the orthographic views in multiple

windows.' [0312]. In [0309], the solid viewing mode shown in Figure 19 is specified to

allow the user to have multiple windows of the same parts, including the worm view, the

bird's eye view, where these are all found in a window. In [0311], it is stated that the

same techniques applied to the two-dimensional flat views as to the solid viewing mode.

Clearly, the multiple windows layout is illustrated in Figure 22. Specifically, given the

teaching in [0312], there is the teaching of the orthographic views)

-Forming the second drawing layout comprising at least the first and second selected

views from the first drawing layout wherein the second drawing layout is formed by

applying a transformation matrix to the first and second views represented in the first

drawing layout and relating the views to each other by repositioning the views in the

second drawing layout wherein, (Sakai – see above, the user can select various desired

views; see for example Figures 17 and 18, where it is specified that simultaneous dual

representations of 2D flat and 3D views are available, and the view model attributes

(solid, wire frame, 2D flat, orthographic) are available to any of the views; Sakai also

can perform extraction of regions from a larger view of a drawing, such that views are

automatically created and extraneous material, such as text and dimensions, are

removed (see Figures 14B and 14C). Sakai further teaches that the bird's eye and

worm's eye (e.g. orthographic) views can be rotated, zoomed, etc ([0350-0363, 0305-

0311]. The bird's eye and worm views are generated in at least separate windows

[0309-0313, 0312], wherein Sakai can be read as providing **multiple views of the

orthographic 2D views** [0312] as well (e.g. birds eye view of orthographic, etc).

Finally, Sakai is capable of generating views that have had a transformation applied to

them, (e.g. perspective, as well as functionality of viewing function (e.g. zoom, rotate,

pan, etc) [0307]. Those operations are performed using transformation matrices. This

is disclosed in [0250-0251]. Further, Sakai clearly discloses that the three views are

orthogonal views of the current three-dimensional object.)

Duncan teaches:

-Selecting for inclusion in a second drawing layout at least a first and a second view

from the plurality of views; (Duncan Abstract – user selects frame windows for

placement into a target window ('drag and drop'). Windowed operating systems are

known to produce different windows for various programs (1:10-38). Specifically, "...a

user is permitted to combine views of one or more frame windows into a single target

window. In the preferred embodiment, the user combines the views via a drag and drop

operation. In addition, the user is permitted to add, delete, and edit entire windows and

panes, which are portions of windows that contain one or more views." (2:66-3:5). "In a

preferred embodiment, the users dock views, panes, and windows to an editor window

through execution of a drag and drop operation. For the drag and drop embodiment, a

user selects, via a cursor control device, a view, pane, or window, drags the selected,

view, pane, or window into the target window, and drops the selected view, pane, or

window into a desired location within the target window." 4:14-21. "...the function of

selecting views and frame windows for inclusion in a target window may be

accomplished through any user interface operation..." 4:22-25)

-The first view and the second view in the second drawing layout are shown in positions

with respect to each other differently their position with respect to each other in the first

drawing layout; and (Duncan Abstract teaches taking various frame windows ('drawing

layout') and combining them into one window 'target window' via a drag and drop

operation on the part of the user ('drag and drop operations') **including their**

arrangement of the views– (3:44-50) a user generates editor windows for a plurality of

editors or tools, and customizes the editor window to includes views for editors or tools

on a project. **SEE ABOVE EXPLANATION OF PREVIOUS CLAUSE.** Specifically, as

noted above, the user drags and drops views to their desired locations within the target

window. Therefore, clearly, the first and second views will have different positions in the

second drawing layout, since the [birds eye view and the like] will be added, and the

user can configure them. Clearly, since they are in the second layout, they are related

to each other. Duncan clearly teaches that views in a pane are configured differently in

that they automatically tile or split or the like, e.g. Figures 3a-3d, Figures 4a and 5, etc.)

-Wherein the first and second drawing layouts appear in the GUI window. (Duncan

teaches that multiple windows that each contains a configuration of windows, panes

and/or views can be combined into one GUI window –see Figures 8 and 9, where the

two windows in Figure 8 are combined to form one window in Figure 9. Thus, clearly,

both the first and second drawing layouts are present in the one GUI window, if the

multiple views are present in multiple windows, they can be directly combined 8:28-42,

or the user can put multiple windows together either via that manner or simply by

dragging them together into one window, or by treating the first set of views as a pane

and combining them, or whatever other desired user configuration. See overall 7:15-

8:55).

Sakai teaches most of the limitations of the instant claim but fails to teach certain

features of the GUI window system. Duncan teaches an advanced window

management system whereby multiple windows, panes, or views (a pane being

equivalent to a layout in the terminology of the instant application) can be combined into

a single target window. See Figures 1, 2a-2b, and the like, wherein multiple single

views or panes are combined into one target window, and also windows containing

combinations of views, panes, or other windows can be merged as well (see Figures 8

and 9 and the above-cited pages explaining them). Clearly, since Sakai generates a

plurality of windows containing such information, the user can then configure these

windows into one master GUI window where all the views could be simultaneously

visible to each other. It would be obvious to one of ordinary skill in the art at the time the

invention was made to combine Duncan with Sakai such that having all views visible in

one window would facilitate comprehension of the relationships of such views, and

Duncan teaches that this is beneficial (1:40-65, 2:59-3:50, and the like) . (It is noted

that claim 7, generally, does not require that both layouts be simultaneously visible (see

Duncan Figures 4a-4b and 6:20-7:30 for that Scenario).

As to claims 29 and 43 [the rejection to claim 7 is incorporated by reference in its

entirety][computer-readable medium causing a computer to execute a set of instructions

that is identical to the computer-implemented method is subject to the identical

rejection, since for the computer to implement the method, there must *prima facie* exist

instructions in a stored form for causing the computer to do so]:

The first clause recites 'rendering' versus 'displaying'. If data is displayed to an

end user, it must be first be rendered.

Claim 29 additionally requires **simultaneous display**, which is covered by the Sakai reference (see Figures 17-22 as exemplars), and particularly by Duncan (see paragraph containing combination statement for claim 7, and the other explanations, Figures 1-2b, 8, 9 and the like).

As to claim 39, this is a system claim implementing the method of claim 29, the rejection to which is incorporated by reference in its entirety. Additionally,

-A computer processing system comprising a processor, an input device, a graphical user interface output device, and a storage device comprising stored instructions configuring the processor to:

(Sakai teaches a personal computer with 200 MHz Pentium CPU ('processor'), 32MB memory, a high-resolution display screen (e.g. SVGA)('graphical user output device'), and a joystick or mouse device ('input device').)

As to claim 43, this is a computer program product containing the method of claim 39, the rejection to which is incorporated by reference in its entirety.

As to claims 11 and 31,

A method, according to claim 7, wherein selecting one of the first view and the second view comprises positioning a cursor on the one of the views being selected and clicking a mouse button.

Duncan clearly teaches drag and drop operations to reposition windows, which is well known in the art to comprises positioning a cursor on a view and clicking a button to move the object in question. Motivation and rationale are taken from the rejection to the parent claim.

As to claims 32-33, Duncan clearly teaches dragging and dropping the views to their desired end position (Abstract). Motivation and rationale are taken from the rejection to the parent claim.

Claims 8-9, 34-36, 41-42, and 45-46 are rejected under 35 USC 103(a) as unpatentable over Sakai in view of Duncan as applied to claims 7, 29, 39, and 43 above, and further in view of Hanratty (US 5,990,897 A).

As to claims 8, 34, 41, and 45

A method, according to claim 7, further comprising automatically aligning the first view and the second view in accordance with a conventional drafting standard by snapping at least one of the first view and the second view into a position as prescribed by the conventional drafting standard.

Sakai clearly specifies that the system be used to enter and/or develop original 2-D and 3-D drawings based on a customer's specification ([0136]) and further that original customer drawings may form part of an order, wherein a 2-D single flat view of the part to made and/or a 2-D three view (e.g. including top, front, and side view) of the part [0157], wherein these drawings are processed as part of the design flow [0158], wherein they can be downloaded or provided in some other manner. Finally, such drawings may be saved as or provided in DXF or IGES files (e.g. conventional drawing formats) [0163], wherein such can be imported through standard CAD modules, or the like [0217]. However, Sakai is silent with respect to the conventional drafting standard, etc.

Hanratty clearly teaches the use of drafting standards in aligning views in 13:22-14:53, particularly emphasizing 13:35-45 where the positioning of views is said to be specified by the standard, and to be done automatically. This clearly proves that the views in Fig. 3 are automatically aligned and positioned as set forth above. It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Sakai/Duncan such that they utilize the conventional drawing standards (ANSI) since these standards are the base ones applicable to the United States and would obviously be used therein. Further, existing CAD standards, such as the ANSI ones cited by Hanratty, would clearly be viewed as conventional since they are in fact well established in the industry. The recitation of the second drawing layout is trivial because if such techniques were applied to the first layout, it would be obvious to apply them to the second.

As to claim 34 specifically, the only difference is the use of the word 'conventional' as set forth in claim 8. This difference is trivial, and set forth above in the rejection to claim 8 under art. The term 'conventional' has been addressed as above.

As to claim 9,

A method, according to claim 8, wherein aligning the first view and the second view utilizes at least one transformation matrix for at least one of the first view and the second view.

Sakai clearly teaches the use of such transformation matrices on views – see [0308-0314].

Further, Sakai aligns such matrices using transformations, since as discussed

above, the transformation matrix is *prima facie* required when windows and/or views are

resized, repositioned, and the like, which clearly occurs in Sakai (and Suzuki, which is

one of the conventional CAD systems discussed in Hanratty 1:5-5:8).

As to claims 35, 36, 42, and 46, Sakai and Duncan fail to teach this limitation and

Hanratty specifically states (13:20-60, particularly lines 35-42) that positioning of views

is specified by an implemented ANSI standard that Hanratty utilize in his specification

and application. Motivation from the rejection to the parent claim is herein incorporated

by reference. .

Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sakai,

Duncan, and Hanratty as applied to claim 9 above, and further in view of Fortenbery et

al (US 6,198,487 B1)('Fortenbery').

As to claim 10,

A method, according to claim 9, wherein the transformation matrix for one of the first

view and the second view performs a mapping between relative coordinates and an

absolute coordinate system.

References Sakai and Hanratty do not teach the limitations of this claim

expressly, but they do show that multiple two-dimensional views (see Hanratty Fig. 3,

Sakai Figure 22) exist, and are mapped to a three-dimensional larger object, as set forth

in the rejections to the claims above. Sakai/Duncan/Hanratty fail to teach a translation

between relative and absolute coordinates. Reference Fortenbery teaches a system for converting two-dimensional views of an object on a computer monitor in a first software application to three-dimensional absolute coordinates in a three-dimensional model, and then the transference of that model to the coordinate system of a second application, such that relative to absolute coordinate transforms occur (12:5-67 teaches that two-dimensional models are converted to "object container coordinates" that are then converted to "a server world coordinate" system)(Fortenbery 10:36-67 clearly illustrates relative and absolute coordinate sets also as set forth above). Clearly, Fortenbery deals with two-dimensional views of three-dimensional objects, so it is analogous art and is directed to the same problem solving area as the Hanratty reference. Furthermore, as cited above, Hanratty teaches the mapping of two-dimensional coordinates to a three-dimensional object, so it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the CAD and view manipulations of Sakai, Duncan, and Hanratty with the coordinate conversion system of Fortenbery to allow the CAD system to take in objects from other programs and model them, as well as more efficiently process its own views during the view conversion process.

Claims 30, 37, 40, and 44 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sakai and Duncan as applied to claims 7, 29, 39, and 43 above, and further in view of Berkwald et al (US 6,356,285 B1)('Berkwald').

As to claims 30, 37, 40, and 44

A method, according to claim 29, further comprising hiding unselected views.

References Sakai and Duncan do not explicitly teach this claim. Reference Berkwald teaches this claim, specifically wherein Berkwald teaches the use of a 'VIEW' menu with various options for hiding files (19:35-60), while it specifically teaches that the user can choose to hide selected or unselected files (19:60-20:6), e.g. the user can select two files or views, and then have the others be hidden. This technique clearly is applicable to situations where software is showing multiple views, particularly if, as set forth in the rejections to claims 7, 29, 39, and 43, they are in multiple windows. The references are directed to the same problem solving area, as Berkwald *inter alia* specifies that the invention is specifically directing to a system for analyzing and displaying information about characteristic-dependent portions of an information processing system (1:6-15). As such, it would have been obvious to one having ordinary skill in the art at the time the invention was made to combine the multiple views and windows of Sakai and Duncan with the window-hiding capabilities of Berkwald as set forth above because such window-hiding techniques are well-known in the art to avoid visual clutter and to shift unnecessary and/or unneeded information off the visible screen area.

Claim 38 is rejected under 35 U.S.C. 103(a) as unpatentable over Sakai and Duncan as applied to claim 7 above, and further in view of Rosenberg et al (US 6,078,308).

Sakai and Duncan do not expressly teach this limitation. However, it is well known in the art that application programs and operating systems like Microsoft™

Windows™ have scroll bars for scrolling documents, and Rosenberg is brought in

because it is directed to the same problem solving area (that of navigating through a

GUI associated with a CAD program). The additional haptic interface capabilities of

Rosenberg would allow easier navigation through a CAD program for example (see for

example Rosenberg 15:36-16:35), which provides motivation that proves that it would

have been obvious to one of ordinary skill in the art at the time the invention was made

to combine the systems of Sakai and Duncan with that of Rosenberg as set forth above.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in

this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP

§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37

CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE

MONTHS from the mailing date of this action. In the event a first reply is filed within

TWO MONTHS of the mailing date of this final action and the advisory action is not

mailed until after the end of the THREE-MONTH shortened statutory period, then the

shortened statutory period will expire on the date the advisory action is mailed, and any

extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later

than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Eric Woods whose telephone number is 571-272-7775. The examiner can normally be reached on M-F 7:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ulka Chauhan can be reached on 571-272-7782. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Eric Woods

ULKA CHAUHAN
SUPERVISORY PATENT EXAMINER